

REMARKS

This is a file wrapper continuation ("FWC") of copending FWC U.S. Application Ser. No. 08/581,307, filed 28 December 1995 for "Electronic Endoscope". That prior copending application was finally rejected in the first Official Action. Thereafter Applicant filed an amendment, but the Examiner refused to enter that amendment. Accordingly, Applicant filed an appeal in that application on 2 June 1997. However, instead of pursuing that appeal, Applicant has elected to file this continuation application incorporating the essence of the amendment that the Examiner refused to enter in Application Ser. No. 08/581,307.

Since this application is being filed within the two (2) month period allowed for filing a brief in support of the 2 June 1997 appeal in prior Application Ser. No. 08/581,307, continuity of priority is preserved and no further extension of time is required in said Application Ser. No. 08/581,307 to assure that this successor application is entitled to the benefit of the priority date of said prior application.

As a consequence of this preliminary amendment, the claims in this application are claims 50, 52, 56, 58, 61, 62, 67, 73, 76 and 79.

This amendment drastically reduces the number of claims and it amends certain claims so as to avoid any objection of indefiniteness and to better distinguish Applicant's invention from the prior art cited by the Examiner in the final action dated 5 December 1996 in said prior parent application Ser. No. 08/581,307.

In parent application Ser. No. 08/581,307, claims 50, 52, 56, 58, 61, 62, 67, 73 and 76 were rejected under 35 USC 102 as being anticipated by Sato et al, or under 35 USC 103 as being unpatentable over Sato et al in view of

Kawahara, with or without reliance on one of more of the following: Lia, Wallace, and Richards. Applicant respectfully traverses those rejections and believes that the corresponding claims in this application are patentable in view of the amendments that are hereby made to those claims and also in view of the following remarks relating to deficiencies of the references. It should be noted that the following remarks regarding failure of the prior art to teach or render obvious Applicant's claimed invention apply also to the other references made of record but not relied upon by the Examiner in his final rejection of the claims in said parent application.

On the basis of this amendment, the application comprises two independent claims, namely claims 50 and 73. It is respectfully submitted that as hereby amended, claims 50 and 73 (and hence the claims that depend therefrom) define an invention that is not anticipated or rendered obvious from the prior art of record, specifically including Sato et al, Kawahara, and the other references cited by the Examiner in support of his 102 and 103 rejections.

In this connection, it should be noted that claims 50 and 73 are similar in that they both call for an endoscope having (1) a handle, (2) a tube assembly secured to the handle, (3) first and second lenses mounted within the tube assembly, with the second lens being movable lengthwise of the tube assembly toward and away from the first lens, (4) a photodetector mounted within and movable lengthwise of the tube assembly, (5) a first control rod connected at one end to the second lens and movable lengthwise of the tube assembly, (6) a second control rod connected at one end to the photodetector and movable length wise of the tube assembly, (7) first and second drive means each comprising a reversible electric motor mounted within the handle, with one drive means being connected to move the first control rod lengthwise of the tube assembly and the other drive means being connected to move the second

control rod lengthwise of the tube assembly, and (8) switch means carried by the handle for selectively operating said motors so as to cause bidirectional movement of said control rods and thereby said second lens and said photodetector.

Additionally claim 73 is more specific regarding the drive means, requiring first and second gear mechanisms coupling the two motors and the two control rods for causing the rods to move lengthwise in response to operation of the motors, with the gear mechanisms being mounted within the handle. Claim 73 also calls for first and second switch means for operating the two motors, with the switch means being mounted to the handle.

It is clear that Sato does not anticipate the invention defined by claims 50 and 73, since Sato lacks control rods connected to reversible electric motors and switch means for operating said motors as required by those claims. Also Sato does not show a handle attached to a tube assembly, with the motors being contained within the handle. Nor does Sato show gear mechanisms as required by claim 73. Therefore, these claims are not properly rejectable under Section 102 as being anticipated by Sato.

It also is clear that Sato does not by itself render obvious the invention defined by claims 50 and 73, since there is no suggestion in Sato of using control rods or reversible electric motors mounted in a handle or switch means carried by the same handle for operating the motors. Further with respect to claim 73, Sato does not show or render obvious the idea of having a tube assembly comprising inner and outer tubes with fiber optic elements disposed between the two tubes and extending into the handle.

Applicant further submits that the additional features specified by his dependent claims also are not disclosed or rendered obvious by Sato.

The deficiencies of Sato with respect to anticipating or rendering obvious Applicant's invention are not overcome by the secondary references relied upon by the Examiner.

The most relevant secondary reference is the patent to Kawahara. It is admitted that Kawahara shows an endoscope that has a tubular assembly comprising a tube 3 having a forward end portion 1, with the tube 3 being connected to a control housing 2. However, unlike Sato and Applicant, Kawahara does not relate to an electronic endoscope, i.e., an endoscope where the image is collected by an electronic image sensor such as a CCD unit. Instead Kawahara relates to an optical endoscope that has an ocular unit 5 at the rear end of housing 2. Consequently Kawahara does not teach or suggest having a photodetector movably mounted in tube 3 or end portion 1, or means for moving that photodetector.

It also is admitted that Kawahara shows in Figs. 7-12 various means for effecting movement between two lens elements of a magnification lens system 12 and also for moving objective lens system 13 to provide focal compensation. Those means include strings means or alternatively, rods and gear means. However, Kawahara does not teach or suggest incorporating an electronic photodetector in his tube 3 or end portion 1 and also providing means for moving the photodetector independently of movement of his magnification lens system or his movable objective lens system. More importantly Kawahara does not teach or suggest the idea of mounting first and second electric motors within his housing 2 and having first and second control rods operatively connected between those first and second motors and a movable lens and a photodetector (image sensor) respectively in the manner required by Applicant's invention. Also in this connection it should be noted that Kawahara characterizes his gear

rack arrangements (Figs. 10-12) as differential mechanisms, thus teaching away from Applicant's idea of having independent control rods.

A further deficiency of Kawahara in teaching how to modify Sato is that it does not teach or suggest how his differential mechanism can be operatively connected to an electric motor. It also should be noted that in column 9, lines 50-51, Kawahara states that his rod 52 "...is operatively coupled with the magnification lens by way of string 33'. In this connection, Applicant asks this question: What happens to string 33' in the event that one attempts to modify Sato according to the teachings of Kawahara? Also where is the differential mechanism located if Sato is modified to incorporate Kawahara's arrangement for moving Sato's photodetector and varying his zoom lens device? It appears that incorporating Kawahara's arrangement in an electronic endoscope as disclosed by Sato would necessitate modifying Sato to include Kawahara's housing 2 and tube 3 and locating the differential rod/gear mechanism in housing 2 and connecting that mechanism to a photodetector or zoom lens in tube 3 by means of Kawahara's string 33'. However, even in such event, the resulting modification of Sato still would not meet or render obvious the limitations of claims 50 and 73.

Richards, Wallace, Lia and Kennedy are all relevant to some extent. It is admitted, for example, that Wallace teaches arranging optical fibers in an annulus and using those fibers to illuminate a surgical site. However, these secondary references do not teach or suggest that it would be advantageous or practical to modify Sato's device by incorporating therein any of their features or any of the features of Kawahara's device. Nor do these secondary references teach or suggest how to incorporate features from Kawahara's device into Sato's device so as to arrive at apparatus as called for by claims 50 and 73.

It appears that the Examiner's position is that Applicant's invention, e.g., as defined by claims 50 and 73, would be the obvious result of modifying Sato by incorporating therein various features from the other references of records, and that, even if such modification did not result in exactly what is claimed, one skilled in the art would immediately deem it desirable and hence obvious to make any further changes that might be necessary in order to obtain the specific combination of elements claimed by Applicant. In response to that position, Applicant notes that the CAFC has repeatedly held that it is not enough for the Examiner to deem the claimed invention obvious. Instead, in order to sustain a Section 103 rejection, the Examiner must cite and rely on prior art to support his conclusion of obviousness. Furthermore, in combining references, the Examiner must show how the modification of the invention of a primary reference to incorporate features of one or more secondary references is rendered obvious from either the primary reference or the secondary reference without reliance on hindsight. Moreover, any such combination of references is sufficient only if it succeeds in providing a combination that meets all of the material limitations of the claims. In this case, producing the combination defined by claims 50 and 73 by changing Sato to incorporate features from Kawahara, Wallace, Richards and/or Lia is not obvious except in the light of Applicant's own teachings. NO

For the foregoing reasons, Applicant respectfully submits that claims 50 and 73 are patentable over Sato, Kawahara, Wallace, Richards and Lia.

Dependent claims 52, 56, 58, 61, 62, 67 and 76, as amended, are believed to be patentable for the same reasons as claims 50 and 73, and also because they recite additional limitations that further improve their patentability. While some of the features recited in these dependent claims may be obvious per se from one or more of Sato, Kawahara, Wallace, Richards and Lia, or even Kennedy, it should be understood that Applicant is claiming as new not those


features per se but rather the combination of those features with the other features recited by claims 50 and 73.

New claim 79 is believed to be allowable for the reasons advanced above and also because it adds limitations not disclosed or rendered obvious by the prior art.

For the foregoing reasons, it is respectfully submitted that this amendment places the application in condition for allowance. Therefore, allowance of this application on the basis of this amendment is respectfully solicited.

The Examiner is invited to telephone the undersigned attorney in the event that the Examiner feels that this would advance prosecution of the application.

Respectfully submitted,

 - 7/16/97

Nicholas A. Pandiscio
Pandiscio & Pandiscio
470 Totten Pond Road
Waltham, MA 02154
Tel.: (617) 290-0060
Fax.: (617) 290-4840
Attorneys for Applicant

NAP/baw

oktas disk no. 1 for hori cases
file = hori101.pr2